

REMARKS

Claims 1 and 4-42 have been rejected under 35 USC 103(a) as being unpatentable over Weinberg, et al. (U.S. 5,959,297). This rejection is respectfully traversed.

Weinberg, et al. is directed to a method of forming and screening a diverse array of materials as noted by the Examiner. The primary difference between the method of forming a combinatorial library as in the applied reference and the method as set forth in the claimed invention is that Weinberg, et al. forms their samples during the depositing stage of the process, whereas in the presently claimed invention, the samples are formed by removing a portion of a triangle on which the various components have been deposited. Referring to Weinberg, et al., column 8, lines 58-60 it is stated that “an array of materials is prepared by successfully delivering components of the materials to predefined regions on a substrate” (underlining added). Further, at column 9, lines 40-42 it is stated that the “resulting array of materials, each at a discrete and known location on the substrate” is formed as layers, blends, mixtures, etc. Even at Example 1, starting at the bottom of column 24 and continuing to column 25, the components are described as being formed in an array defined by a triangle, and as stated at column 25, line 3, the solutions “were dispensed into a 96-well microtiter plate”. Thus, in the process of Weinberg, et al., the array is formed by depositing the desired components on individual places of the substrate. This placement is achieved by relatively sophisticated equipment as stated at column 11, including sputtering electron beam and thermal evaporation, laser

deposition, etc. Even in solution deposition methods, “discrete liquid dispensing techniques” including pipettes, syringes, inkjets, and micro-contact printing are utilized.

In the presently claimed method, the components are provided in the form of a triangle without the need for exact placement of each drop of component within the triangle. In accordance with the present invention, at least one component, and preferably a plurality of components, are applied as concentration gradients across a triangle, but this can be achieved by a simple method such as screen printing in which the material is essentially applied by a single applicator such as a screen printing screen and a squeegee. Since the concentration gradient is known from an apex of the triangle to the opposite base, the concentration of a particular sample can be readily determined from anywhere in the triangle area. Once the coating or coatings are deposited, various samples of any shape or size within the triangle can be taken and the concentration of each component readily calculated from the sample location in the triangle. Thus, the exact composition of the sample is not obtained during the deposition of the components, but from the size and shape of the sample taken from within the triangle after deposition. In this manner, many different samples can be formed without the need for expressly depositing specific minute samples of the components in strictly defined areas of the substrate. Accordingly, it is believed that claim 1 patentably distinguishes over Weinberg, et al. and as such, all claims dependent thereon would likewise be patentable.

The Examiner, in response to Applicants’ previous arguments, states that it would have been obvious to test varying concentrations of Weinberg, et al. separately by

removing portions of less than the whole, so as not to mix the samples and results of different concentrations, and avoid cross-contamination. The Examiner misses the point. In Weinberg, et al., the individual compositions are deposited separately. While there may be a concentration gradient as one goes horizontally or vertically from discrete sample to discrete sample, Weinberg, et al. does not test a plurality of samples mixed together, as that would destroy the purpose of depositing the composition with the preciseness disclosed by Weinberg, et al. Accordingly, the sample tested by Weinberg, et al. is the individual composition which is deposited at a particular spot on the substrate. Accordingly, Weinberg, et al. cannot take a portion of the triangle less than the whole and still have a concentration gradient of at least one component within the area of the sample taken. Such would defeat the purpose of the precise application process of Weinberg, et al.

Applicants' process allows a wide variety of sample compositions to be formed without the need for forming individual test sample compositions as required by Weinberg, et al. Weinberg, et al. cannot remove from his triangle a portion of the triangle that has a concentration gradient of one, two or three components, inasmuch as that would be cross contamination of the test samples of Weinberg, et al. In Applicants' invention, the compositions are not formed while they are deposited as in Weinberg, et al., but are formed by the portion of the triangle cut out. Unlike Weinberg, et al., mixing and cross contamination of the concentration gradients is exactly what is desired in the present invention since such allows a wider variety of compositions to be sampled throughout the triangle. Again, the concentration gradient of each component from the

apex of the triangle to the base is known so the composition of a particular sample which is removed can be readily calculated.

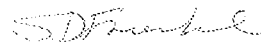
Regarding claims 4-6 and 26-30, Weinberg, et al. does not suggest the importance of the substrate in combination with the sample applied thereon, and therefore does not suggest the claimed process of recovering the sample deposited along with the underlying substrate for testing.

Again, Applicants specifically object to the rejection of claim 10 in which the components are deposited by a screen printing process. Weinberg, et al. discloses screening but the term “screening” is synonymous with the term “testing”. While Weinberg, et al. uses micro-contact printing, that is not the screen printing process which is claimed and disclosed. Weinberg, et al. must utilize sophisticated equipment to form and deposit components on specific regions of the substrate. In the claimed process, the components can be deposited by a simple screen printing process in which a screen is developed to form a concentration gradient of the component being deposited across the triangle. The screen printing process is markedly easier as opposed to the processes described in Weinberg, et al.

Allowance of claims 1 and 4-42 is respectfully requested.

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Respectfully Submitted,

A handwritten signature in cursive script, appearing to read "S.D. Frenkel".

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